USSR

UDC 621.396.6.004

VERLAN', A. F.

"Error Analysis of Electronic Simulation of Subjects Described by Integral Equations"

Kiev, Kibernetika i Vychislitel'naya Tekhnika, Tochnost' i Nadezhnost' Kiberneticheskikh Sistem, No 10, 1971, pp 9-13

Abstract: A study was made of means of analyzing the errors in reproducing a class of integral equations in electronic models. Equations are derived for the errors and influence coefficients. Both algorithmic and nonalgorithmic methods can be used to solve the equations used to describe linear nonstationary objects. The direct simulation (nonalgorithmic) method is chosen as the most efficient for use on an analog computer. Within this framework several means of obtaining information about the errors in solving integral equations on analog computers are investigated. The derived expressions can be used as the basis for deterministic estimates and for probability error analysis.

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USSR BOOK 352 UDC 517.4.001.57

VERLAN', A. F., and YEVDOKIMOV, V. F.

Elektronnoye Modelirovaniye Peredatochnykh Funktsiy (Electronic Simulation of Transfer Functions), Kiev, "Tekhnika," 1971, 232 pp, illus, biblio 103 titles, 3,700 copies printed.

Translation of Annotation:

The book deals with problems involving the development and use of methods of electronic simulation of transfer functions. Basic data are presented from the mathematical apparatus of transfer functions; hardware and software for simulating fractional-rational transfer functions are described as well as a number of procedures for deriving and modeling approximating expressions for irrational and transcendental transfer functions. Consideration is given to applications of the described procedures for studying objects and systems with distributed parameters and for solving certain partial differential, integral, and transcendental equations. The book is intended for specialists in the area of analog computer technology and automatic control, scientific workers and engineers engaged in the study of the dynamics of various systems, and also for students majoring in related fields.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203510014-3"

Computers: Applications & Programming

USSR

UDC 681.142.33

VERLAN', A. F.

Metody Resheniya Integral'nykh Uravneniy na Analogovykh Vychislitel'nykh Mashinakh (Methods of Solving Integral Equations on Analog Computers), Kiev, "Naukova Dumka," 1972, 219 pp

Abstract: This book examines nonalgorithmic and algorithmic methods of solving Volterra's and Fredholm's equations, as well as certain types of integrodifferential equations, on analog computers. Nonalgorithmic methods and models are described as applied to equations of the Volterra type used for solving many problems in dynamics. Algorithmic methods are used for solving Fredholm's and Volterra's equations. It is shown that the methods described can be used both for constructing specialized computers and devices and for solving integral equations on serially produced analog computers.

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1.7. Reproducing Polynomials	
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1.9. Structures of Algorithmic	Analog Devices for Solving Integral
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3/3			

USSR

DEM'YANENKO, V. P.; TSYASHCHENKO, Yu. P.; VERLAN, E. M. (Kiev State University)
"Infrared Absorption of the Complex Gro4" M2" in KC1 and KBr Crystals"
Lemingrad, Solid State Physics; November, 1970; pp 3124-32

ABSTRACT: The infrared absorption spectra of KCl and KBr crystals alloyed with CrO_4^2 ions and cations $\text{M}^{24} = \text{Mg}^{24}$, Sr^{24} , Ba^{24} , Pb^{24} were studied in the 100-300°K temperature interval. These impurities form complexes of symmetry C_{27} , causing disintegration of the triply degenerate valence oscillation V_1 and the appearance of completely symmetrical oscillation V_1 of the CrO_4^2 ion.

The frequencies in the infrared spectra of these complexes are given, and a comparison of them is made depending on the form of the N^{2+} cation.

From the data on the integral absorption of the complexes of a triplet oscillation v_3 are evaluated the magnitudes of the charges localized on atoms of oxygen and chromium from a Cr_{4}^{2} ion excited by an M^{2} cation.

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1/2 018 UNCLASSIFIED PROCESSING DATE--300CT70

TITLE-BRAIN ELECTRICAL ACTIVITY IN THE SHERESHEVSKY TERNER SYNDROME AND

MUSAICISM —U— AUTHOR—(OZ)—GGDINOVA, A.M., VERLINSKAYA, D.K.

CCUNTRY OF INFO-USSR

SOURCE-ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSAKOVA, 1970, VOL. 70, NR. 6, PP. 873-879

DATE PUBLISHED 70

SUBJECT AREAS-BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS-ELECTROENCEPHAGGRAPHY, BRAIN, SYNDROME

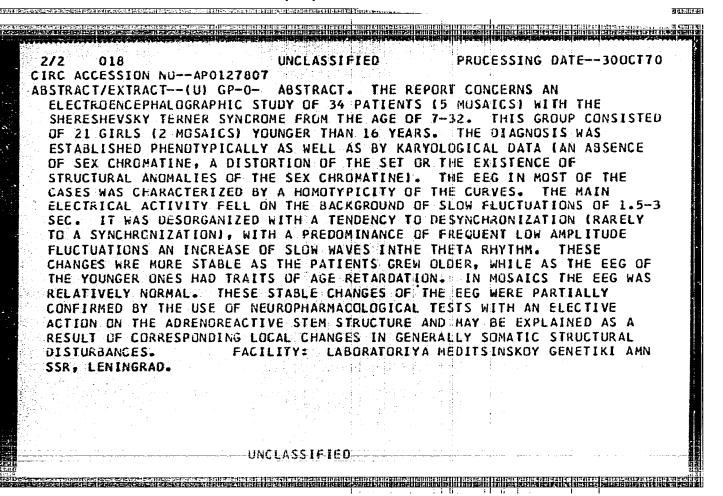
CENTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED PROXY REEL/FRAME—3002/0189

STEP NO--UR/0246/70/070/006/0873/0879

CIRC ACCESSION NU--APO127807.

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SSR

UDC 535.324+535.341]:539.238

USOSKIN, A. I., ShKLYaREVSKIY, I. N., GERCHIKOV, A. S., and VERLINSKIY, Yu. S

"The Optical Properties of Thin Films of Bismuth"

Leningrad, Optika i Spektroskopiya, Vol 34, No 5, May 73, pp 954 - 958

Abstract: Experimental studies were made of two groups of bismuth films. Films in the first group were precipitated in a vacuum at room temperature and then heated to 120°C, while those in the second group were deposited on a substrate heated to 120°C. Films in the first group were of a gray-blue color with transitions to yellowish at low thicknesses, while those in the second group were an intense yellow color. Each group includes films of different, precisely controlled thicknesses. The films deposited at room temperature could not be separated from the substrate, so they were deposited on materials that were transparent to the electron beam for electron microscopy. The two groups of films show a clear distinction in pattern, those in the second group maintaining large, distinct islands of bismuth even at high thicknessos, while the islands tend to run together in the first groups.

Visible light measurements were made to determine the indices of refraction and absorption of the films. Nominal values permitted the calculation of the imaginary and real components of the effective dielectric constant of the films.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203510014-3"

USSR

Usoskin, A. I., et al, Leningrad, Optika i Spektroskopiya, Vol 34, No 5, May 73, pp 954 - 958

These calculations yield both positive and negative roots. Special observations permitted the determination that the positive roots and the indices of refraction and absorption associated with them are valid for the thinner films, while the negative values are valid for thicker films. The transition comes when the two values of effective dielectric constant tend to be equal, that is when the expression under the radical in the formula for this value becomes zero; this thickness is greater for light of longer wavelengths.

The results indicate that as the islands of bismuth coalesce in films of the first group the properties approach those of much thicker films, while the films of the second group maintain fairly constant indices even when the thickness and the size of the islands change significantly (thickness 11 - 18 nanometers). The relevant values for various thicknesses and wavelengths are given in two tables.

2/2

- 86 -

1/2 016 UNCLASSIFIED PROCESSING DATE--160CT70
TITLE--KINETIC STUDY OF THE ANTITUMOR ACTIVITY OF N-NITROSALKYLUREA IN
EXPERIMENTS -U-

AUTHOR-(04)-EMANUEL, N.M., VERMEL, YE.M., OSTROVSKAYA, L.A., KUKHARENKO,

COUNTRY OF INFO--USSR

SOURCE--INST. CHEM. PHYS., MOSCOW, USSR

DATE PUBLISHED ---- 70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ANTINEOPLASTIC DRUG, UREA DERIVATIVE, NITROSO COMPOUND, DRUG , DOSAGE RESPONSE

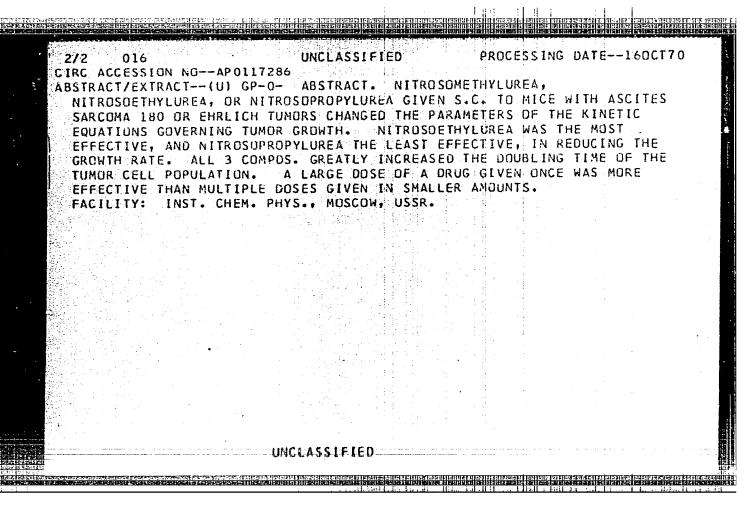
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PROXY REEL/FRAME--1995/2043

STEP ND--UR/0506/70/016/003/0046/0054

CIRC ACCESSION NU--APO117286

UNCLASSIFIED



1/2 024 UNCLASSIFIED PROCESSING DATE--230CT70
TITLE--ANTITUMOR, RADIOSENSITIZING AND RADIOPROTECTIVE PROPERTIES OF SOME
FLAVONOIDS IN RELATION TO THEIR STRUCTURE -UAUTHOR-(03)-KABIYEV, O.K., VERMENICHEV, S.M., AYAPBERGENOV, YE.K.

CHARLES CHARLES

COUNTRY OF INFO--USSR

SOURCE--RADIOBIOLOGIYA. INFORM. BYUL. (RADIOBIOLOGY. INFORMATION REFERENCE--RZH, BIOLOGICHESKAYA KHIMIYA, NO 6, MAR 70, ABSTRACT NO 6 F2570 DATE PUBLISHED-----70

SUBJECT AREAS -- BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ANTITUMOR DRUG EFFECT, RADIATION SENSITIVITY, RADIOPROTECTIVE AGENT, FLAVONOID COMPOUND

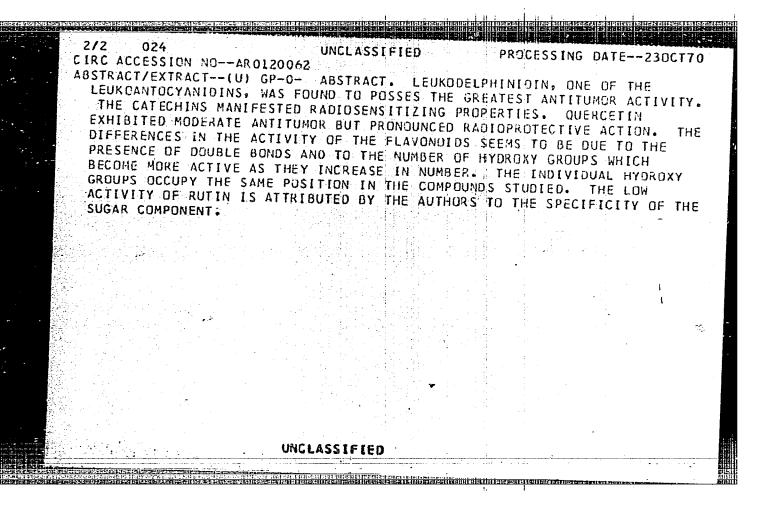
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CIRC ACCESSION NO--AR0120062

UNCLASSIFIED



USSR

UDC: 536.212.2:535.345.1

VERMOGRADSKIY, V. A., CHEKHOVSKOY, V. Ya.

"Heat-Physical Properties of Rhenium at High Temperatures"

Moscow, Teplofizika Vysokikh Temperatur, Vol 11, No 1, Jan-Feb 73, pp 84-87.

Abstract: The electrical resistivity, heat conductivity and integral hemispheric degree of blackness of polycrystalline rhenium are measured in the 1200-3000° K temperature interval. Purity of the specimens used was 99.98%. They were produced by methods of powder metallurgy in the form of wires 0.3 mm in diameter. The differences between the data produced in this work and the data of other authors is discussed. Causes for variations in data include faulty techniques used in some earlier works, differences in densities of materials tested, and anisotropy of the properties of rhenium single crystals, in combination with preferential orientation of crystals in polycrystal-line specimens.

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UDC 539.67

VERNER, V. D., PIGUZOV, Yu. V., and RZHEVSKAYA, I. Ya.

"Relaxation Spectrum of Molybdenum. Governed by Incorporation Impurities"

Sb. "Vnutrenneye treniye v metallicheskikh materialakh" (Internal Friction in Metallic Materials), Moscow, Izd-vo "Nauka", 1970, pp 61-65

Abstract: Results of an investigation are presented which make it possible to explain the complex relaxation spectrum in molybdenum with a substantial content of impurities.

A graphic resolution of a complex 220-degree peak, obtained in molybdenum with oxygen, nitrogen, and carbon additions, is presented.

The shape of the oxygen and carbon solubility lines in a solid molybdenumbased solution is refined and the true diffusion coefficients of these elements are determined. 2 tables, 5 figures, 3 references.

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- 65 -

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urc 621.378.3

USSR

BOBROVNIKOV, Yu. A., VERNIGOR, Ye. M., ZVEREV, G. M., LUK YANTETS, Ye. A., MARTYNOV, A. D., and KHROLOVA, O. P.

"Effective Conversion of the Second Harmonic of a Ruby Leser into Induced Radiation in the 400-470 Millimicron Range in Stilbenyloxazole Solutions"

Minsk, Zhurnal Prikladnoy Spektroskopii, Vol 13, No 2, Aug 70, pp 216-219

Abstract: Results are presented for an experiment conducted to study the laserinduced radiation in alcohol solutions of stilbenyloxazoles. In the experiment a 2.5 Mw ruby-laser beam was focused on the vessel containing the solution. The induced radiation was recorded by means of the ISP-51 spectrograph. The wave length of the induced radiation ranged from 400 to 470 millimicrons. The spectrum width for alcohol is 2.5-3 times that produced in benzene. For all solutions studied the radiation conversion factor is about 20%.

CIA-RDP86-00513R002203510014-3" APPROVED FOR RELEASE: 08/09/2001

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USSR

UDC: 621.3.014.4

VERNIGOROV. YU. M.

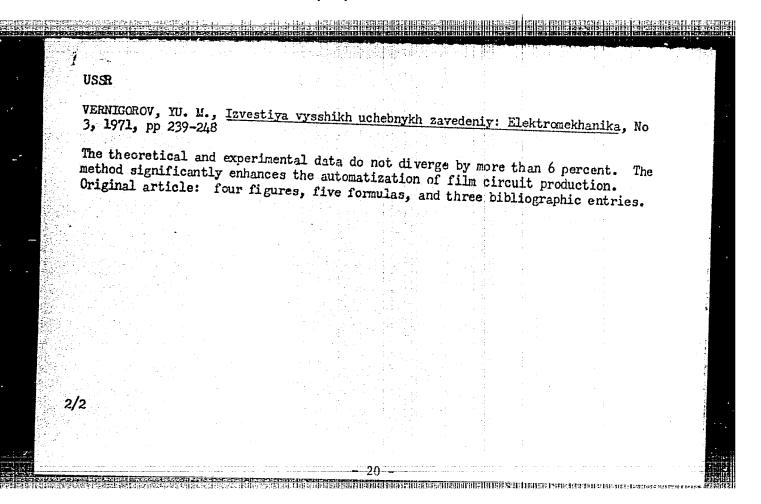
"The Possibility of Controlling Conducting Films Using the Eddy Currents"

Novocherkassk, <u>Izvestiya vysshikh uchebnykh zavedeniy</u>: <u>Elektromekhanika</u>, No 3, 1971, pp 332-334.

Abstract: The author studies the possibility of using the eddy current method for the contactless control of films directly during their deposition. The author proposes the deposition of an additional control area "sputnik" in the shape of a disc which is formed simultaneously during the deposition of the basic functional circuit. The "sputnik" is located in a variable magnetic field of a coil-data unit which is in turn located above (or below) the backing. The problem is formulated in the following way: find the value of the resistance introduced into the data unit for the data unit-controlling, conducting disc system as a function of the structural dimensions of the system, surface resistance of the film, and the frequency of the current in the data unit. The results show that the eddy current method can be used for the direct, contactless control of the surface resistance of low-resistance conducting films directly during their deposition. Engineering methodology is given for calculating the introduced, active resistance as a function of the parameters of the conducting disc-data unit electromagnetic system.

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USSR

UDC 615.833-002-031.14-02 £15.285.7

VERNIK, A. Ya., Chair of Neurology and Psychiatry, Petrozavodsk University

"Chlorophos Neuritis"

Moscow, Sovetskaya Meditsina, No 9, 1971, pp 44-46

Abstract: The following stages can be distinguished in the clinical picture of acute chlorophos poisoning: coma (day 1), severe visceral disturbances (days 2 and 3), psychomotor excitation (days 4 and 5), sense of well-being (days 7 to 16), and polyneuritis (from days 16 to 20). The onset of the polyneuritic stage is marked by pain in the extremities, dysfunction of the craniocerebral nerves, and progressive paralysis of the feet and hands, usually bilateral. The disease follows a long and severe course and has permanent aftereffects. The late onset of polyneuritis is thought to be due not only to the direct action of chlorophos on the motor neurons but also to impaired assimilation of the B complex vitamins resulting from toxic lesions of the liver. Neostigmine or other anticholinesterase agents should not be prescribed for polyneuritis induced by chlorophos. A detailed excerpt is presented from the case history of a 26-year-old man who while drunk swallowed about 200 g of diluted chlorophos to commit suicide.

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USSR

UDC: 621.375:621.39(075.8)

KUSHNIR, F. V., SAVENKO, V. G., and VERNIK, S. M.

"Measurements in Communications Engineering; Textbook for Electrical Engineering Communication Institutes"

Svyaz' (Communications) 1970, 543 pp, illustrated, 1 ruble 38 kopeks (from kZh-Radiotekhnika, No. 3, Farch 71, Abstract No. 3A332K)

Translation: Contemporary methods and measurement procedures in electrical communications are systematically emplained; requirements of measuring instruments are confirmed and methods of their realization are indicated. Fundamentals of the theory of measurement errors are given. Electromechanical instruments, voltage supplies, and methods of obtaining oscillograms of electrical oscillations are described. Separate chapters are devoted to measurements of current, voltage, power, frequency, phase difference and phase parameters, nonlinear distortions, modulation, intensity of the electromagnetic field, noise in communication channels, parameters of two-terminal networks and the attenuation of fourterminal networks, random process characteristics, measurements on communications lines, and the automation of measurements. book is a textbook for students in the technical departments of VUZ communications schools. It can also be used in the practical work of engineers and technicians. Ten tables, 384 illustrations, bibliography of 11. Annotation

UESR

UDC 621.382.002

VERNIKOV, Mra., VORCB'YEV, N.N., MARKOVA, T.A., ROSINA, L.A., SHOHEGLOV, A.S.

"Study C? The Effect Of Thermocompression Regimes On The Electrical Parameters Of Transistors"

Elektron.tekhnika.Nauch.-tekhn.eb. Poluprovodn.pribory (Electronic Technics. Scientific-Technical Collection. Semiconductor Devices), 1971, Issue 4(61), up 161-166 (from RZh:Elektronika i yeye primeneniye, No 4, April 1972, Abstract No 4B526)

Trenslation: The study was conducted on planar silicon n-p-n transistors with an epitaxial base. The thermocompression regime was controlled by two parameters —the temperature and pressure at the wedge [jgla], which were varied in the limits 320-390°C and 25-31.3 kg/mm², respectively. It is shown that an increase of the temperature and pressure at the wedge leads to a significant instability of the parameter h_{21E} in the course of 500-hour tests on reliability. The mechanism of the effect of remanent strains on the instability of h₂₁₂ is discussed. It is proposed first to set the temperature and pressure at the minimum level which assures a sufficient mechanical stability, and secondly to maintain the regime with a precision not worse than 5 percent. 4 ill. 17 ref.G.I.

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Nuclear Physics

USSR

UDC 537.591.1

VERNOV, S. N., GRIGOROV, N. L., LIKIN, O. B., LOGACHEV, Yu. I., PISARENKO, N.F., SAVENKO, I. A., VOLODICHEV, N. N., and SUSLOV, A. A., Scientific Research Institute of Nuclear Physics, Moscow State University.

"Studies of Cosmic Radiation Aboard the Prognoz Satellites"

Moscow, Izvestiya Akademii Nauk SSSR, Fizika; Vol 37, No 6, 1973, pp 1138-1143

Abstract: Two Prognoz satellites were launched in April and June of 1972 into orbits with the following parameters: apogee -- 200,000 kilometers, perigee --950 kilometers, angle of inclination 650. The satellites were launched toward the sun, the angles between projections of the apsides and the orbit through the plane of the ecliptic and the direction of the sun being 22 and 23 degrees, respectively. The angle between projections of the apsides of the two satellites was 77° in July 1972. The satellites served about six months each. Although they were in orbit during the decline in the ll-year solar cycle, their first months of observation coincide with an anomalous increase in solar activity. Background radiation was almost never recorded in these months. From April through September 1972, interplanetary space was filled with intensive streams of solar protons at energies of about 1 Mey. Higher energy protons were observed only during the August flares. The electron flow 1/3

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203510014-3"

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VERNOV, S. N., et al., Izvestiya Akademii Nauk SSSR, Fizika; Vol 37, No 6, 1973, pp 1138-1143

was well correlated with the protons. Absorbed radiation dose during this interval, except for 2-7 August, was steady at approximately 24 mrad per day.

Calculations from the uniform nature of the declines in intensity of solar proton activity indicate that the absorbing layer is at a distance of approximately two astronomical units from the sun. It is remarkable that the state of interplanetary space remained the same over a long interval, in spite of substantial manifestations of solar activity; when perturbed, it recovered rapidly.

Increases in electron flow were observed several times without any corresponding increase in proton output, but every increase in proton output from

the sun was accompanied by an increase in electron flow.

During intervals of low solar activity, the detectors which determined these correlations established a strong negative correlation between the counts of extra-solar protons at over 30 MeV and electrons under 500 keV.

The satellites recorded the intense solar activity of early August. An interesting phenomenon was the sharp increase in the flow of particles at all energies over the course of 2.5 hours early on 5 August. The peaks in the curves had particularly steep leading and trailing edges. It is theorized 2/3

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VERNOV, S. N., et al., Izvestiya Akademii Nauk SSSR, Fizika; Vol 37, No 6, pp 1138-1143

that this represented a magnetic "trap" with dimensions of approximately 0.1 au, traveling at approximately 2500 kilometers per second; the absence of any nucleons with $Z \ge 6$ indicates that the particles must all have been of solar origin.

3/3

UDC 612.122.1:612.59

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VERNSHTEYN, V. A., and GORDIYENKO, G. P.

"Glycemia Fluctuations During the Hypothermy Frocess With and Without Narcosis"

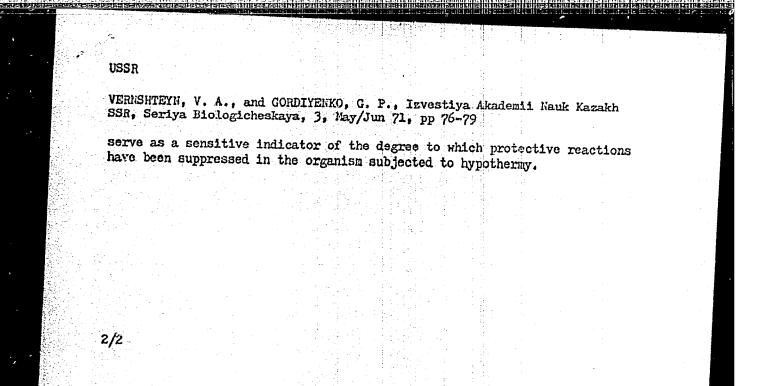
Alma-Ata, Izvestiya Akademii Nauk Kazakh SSR, Seriya Biologicheskaya, 3, May/Jun 71, pp 76-79

Abstract: The authors present a chart summarizing a wide range of results in the literature on the effect of hypothermy on hyperglycemia. In their own research they used 108 white male rats divided in three groups. For non-narcotized rats, blood glucous concentration (Mm) initially comprised narcotized rats, blood glucous concentration (Mm) initially comprised narcotized rats the corresponding figures were 93+6, 85+6, and 88+5 mg%. This data provides reliable ponding figures were 93+6, 85+6, and 88+5 mg%. This data provides reliable evidence of a rise of glycemia during the development of hypothermy without evidence of a rise of glycemia during the development of hypothermy without narcosis and the complete suppression of this reaction on introduction of large doses of ganglion-blocking, neuroplegic, and narcotizing substances. The problem remains, however, concerning occasional references to hyperglycemia with hypothermy under narcosis, particularly in surgical patients. Apparently minute quantities of adrenalin can produce hyperglycemia without producing minute quantities of adrenalin can produce hyperglycemia without producing cardiovascular reactions. The level of glucose concentration in the blood can

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USSR

UDC 621.375.826

PFAYFFER, M., VERNKE, V., LAU, A., VAYGMAN, KH. I., LENTS, K., GADOV, P.

"Procedure for Separating the Weak Lines of Forced Combination Scattering by Means of Selective Absorption on the Frequency of the Strongest Stokes Component"

V sb. Kvant. elektronika (Quantum Electronics--collection of works), Moscow, No 5, 1971, pp 129-131 (from RZh-Radiotekhnika, No 1, 1972, Abstract No 1D342)

Translation: In the presence of forced combination scattering, usually only the combination scattering component with the largest amplification coefficient appears in the spectrum. Its appearance causes such strong depletion of the intensity of the exciting laser that the other combination scattering signals cannot grow to the sensitivity threshold of the receiver. By selective absorption for the predominant Stokes component it is possible to facilitate the appearance of other combination scattering frequencies. It was theoretically demonstrated that when using an absorbing liquid for which the ratio of the absorption coefficient on the frequency of the first Stokes component and on the laser frequency of 100:1 is obtained, the detection threshold of the weak component can be reduced by 7 times. The bibliography has 5 entries.

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USSR

UDC 621.791.1:546.26-162:546.821

KAZAKOV, N. F., KRYUCHKOVA, V. P., ZAZOVSKIY, D. G., and VERNYY, V. A.

"Graphite and Titanium Diffusion Welding in a Vacuum"

Kiev, Avtomaticheskaya Svarka, No 2, Feb 71, pp 70-71

Abstract: Results are given of experiments designed to ascertain the optimal modes of welding titanium to graphite. Specimens of the two original metals measured 80 x 50 x 20 mm for Ti and 50 x 50 x 20 mm for the graphite, and were welded together in the SDVU-8M diffusion vacuum machine at a temperature of 1100° C obtained from an LZ-67 high-frequency oscillator with an output power of 60 kW and a frequency of 60-74 kHz. The temperature was controlled by a KhA thermocouple. Metallographic analysis after the welding process was completed showed that complete melting occurred at the point of contact of the metals, and that damage resulting from the mechanical testing was restricted to the graphite. The low resistance to a d-c current passed through the weld indicated its high quality.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203510014-3"

UNCLASSIFIED TITLE--PRUPARGYL ETHERS FROM 9,10,DIHYDRO,EXO,DICYLOPENTADIENE -U-PROCESSING DATE-- 20NOV70

AUTHOR-(04)-YASHINA, D.G., GAVRILOVA, L.D., RUDNEY, S.A., VERSHCHAGIN,

CCUNTRY OF INFU-USSR

SOURCE-ZH. ORG. KHIM. 1970, 6(5), 971-5

DATE PUBLISHED----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CUNDENSATION REACTION, ALKYNE, ARGMATIC HYDROCARBON, ETHER, CARBUXYLIC ACID CHLORIDE, FORMALDEHYDE, BROMINATED ORGANIC COMPOUND, CHLORIFATED ORGANIC COMPOUND, AMINE DERIVATIVE, HYDROGENATION

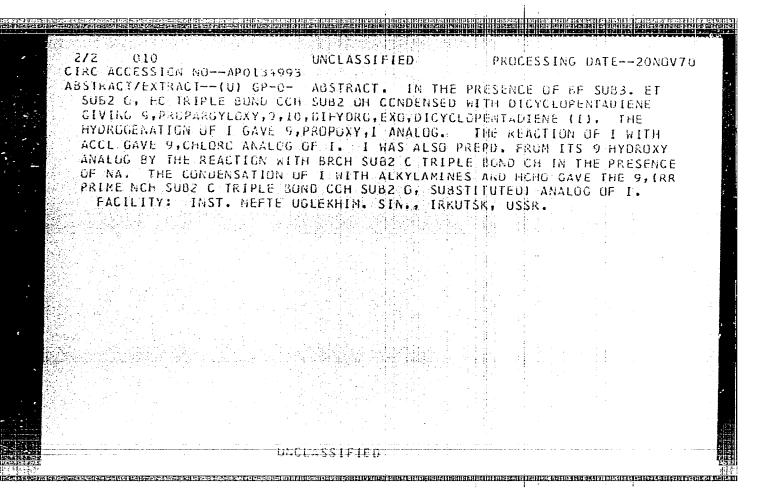
CENTROL MARKING-NO RESTRICTIONS

DECUMENT CLASS--UNCLASSIFIED PROXY RELL/FRAME--3006/1319

STEP NO--UR/0366/70/066/005/0971/0975

CIRC ACCESSION NU-APOI34993

UNCLASSIFIED



USSR

UDC 546.732-386.03+546.742-386.03

VERSHCHAGINA, T. Ya., VASHMAN, A. A.

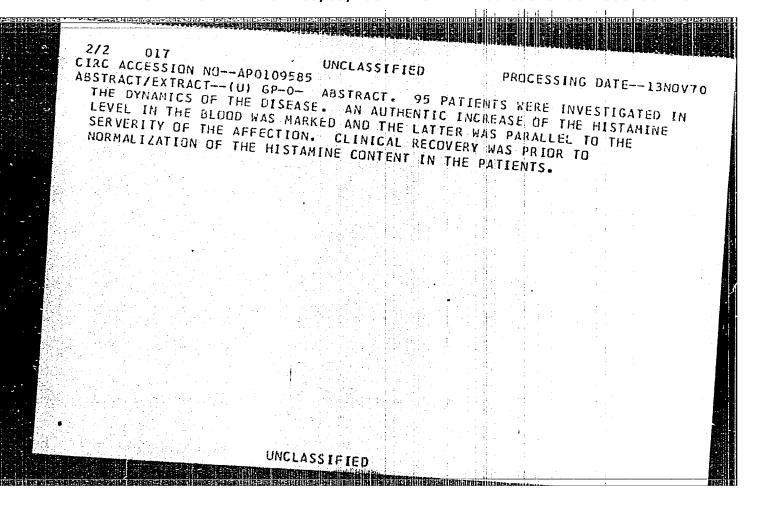
"Spectroscopic, Magnetochemical and Relaxation Measurements of Co^{II} and Ni^{II} Complexes with Organophosphorus Ligands"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol XVIII, No 1, 1973, pp 162-168

Abstract: The methods of electron spectroscopy, magnetic suspension and spin echo in the phosphorus nuclei were used to study complexes of the nitrates of Co^{II} and Ni^{II} with tributyl phosphate, tributyl phosphinate and tributyl-phosphine oxide. The nature of the metal-ligand chemical bonds in the complexes formed during the process of extraction in aqueous solutions of organophosphorus compounds is discussed. The increasing order of degree of donor-acceptor metal-ligand bonding phosphate-phosphinate-phosphine oxide coincides with the increase in the extractive capacity of the extractants. However, water molecules are preferable coordinating ligands in mixed solvents.

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017 TITLE-CLINICAL IMPORTANCE OF HISTAMINE CONTENT DETERMINATION IN THE BLOOD UNCLASSIFIED OF PATIENTS WITH INFECTIOUS HEPATITIS -U-AUTHOR-VERSHENYA. M.I. COUNTRY OF INFO-USSR SCURCE-ZDRAVOOKHRANENIYE BELORUSSII, 1970, NR 2, PP 57-60 DATE PUBLISHED ---- 70 SUBJECT AREAS—BIOLOGICAL AND MEDICAL SCIENCES TOPIC TAGS-HEPATITIS, HISTAMINE, BLOOD CONTROL MARKING--NO RESTRICTIONS DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1990/1525 STEP NO--UR/0477/70/000/002/0057/0060 CIRC ACCESSION NO-APO109585 UNCLASSIFIED



USSR

VERSHIGORA, A. Ye., DYACHENKO, S. S., LISUNKINA, I. K., MORGUNOV, I. N., NOCACHEVSKIY, I. 1., TEREKHOV, S. N., CHERNUSHENKO, Ye. F., and YAGUD, S. L., Editors, Ministry of Health, Ukrainian SSR

Immunologiya. Respublikanskiy mezhvedomstvennyy sbornik (Immunology. Republic Interdepartmental Collection), No 5, "Zdorov'ya," Kiev, 1972

Translation: Annotation: Articles included in the collection deal with the most pressing problems of theoretical and practical immunology, viz., mechanism of the formation of antibodies and immunological reactivity, allergy and clinical and experimental immunopathology, specific prophylaxis, and reactogenicity of vaccines and postvaccinal complications. Works aimed at devising methods of immunological investigations help to solve problems of modern immunology.

The previous four issues of this collection were published under the title of "Voprosy Immunologii" (Problems of Immunology).

The collection is of interest to scientific workers, practitioners of various specialties, and to senior students of medical institutes.

191 pages. 52 Russian articles with Russian abstracts.

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	Kiev, 1972		
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1/2-7 010 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--THERMAL MAGNETIC PULSE METAL PROCESSING -U-

AUTHOR-(03)-BRON, O.B., YEPECHURIN, V.P., VERSHILOV, YU.I.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, KUZNECHNO-SHTAMPOVOCHNOYE PROIZVODSTVO, NO. 2, 1970, PP 12-14
DATE PUBLISHED----70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., MATERIALS, MECH., IND., CIVIL AND MARINE ENGR.
TOPIC TAGS--MAGNETIC FIELD EFFECT, METALLURGIC FURNACE, ELECTRIC FURNACE

CONTROL MARKING--NO RESTRICTIONS

DUCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1985/0264

STEP NO--UR/0182/70/000/002/0012/0014

CIRC ACCESSION NO--APOLO0774

- UNCLASSIFIED

2/2 010 CIRC ACCESSION NO--APO100774 UNCLASSIFIED ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS ARTICLE DESCRIBES A DEVICE PROCESSING DATE--18SEP70 WHICH COMBINES HIGH FREQUENCE HEATING WITH STRONG MAGNETIC FIELD PULSES FOR THE PURPOSE OF PROCESSING METALS BY PRESSURE. IN MOST MACHINES OF THIS TYPE, A MAGNETIC INDUCTION IN THE AIR GAP BETWEEN THE INDUCTOR AND THE SPECIMEN OF UP TO 100 WEBERS-M PRIMES IS OBTAINED; THE RESULTING PRESSURE ON THE SPECIMEN IS THEREFORE INSUFFICIENT. THE DEVICE DESCRIBED IN THIS ARTICLE RECTIFIES THIS DEFICIENCY BY HEATING THE SPECIMEN BEFORE THE PROCESSING, A METHOD KNOWN AS THERMAL MAGNETIC PULSE METAL PROCESSING. THE INDUCTOR HERE PERFORMS A DOUBLE FUNCTION: IT HEATS THE SPECIMEN WITH HIGH FREQUENCY CURRENTS, AND CARRIES PULSED DISCHARGE CURRENTS FOR THE REQUIRED MAGNETIC FIELD PULSES. A CIRCUIT DIAGRAM OF THE DEVICE IS GIVEN. IT COMBINES THE CIRCUIT OF THE ORDINARY DEVICE PLUS A HIGH FREQUENCY OSCILLATOR OF 45 KILOVOLT AMPERES WITH A WATER COOLING REQUIRED FOR THE INDUCTOR ARE SHOWN TOGETHER WITH CURVES ILLUSTRATING THE DEFORMATION OF THE SPECIMEN AS A FUNCTION OF THE TEMPERATURES DEVELOPED BY THE DEVICE. THE AUTHORS CONCLUDE THAT THE METHOD OF THERMAL MAGNETIC PULSE CREATES THE CONDITIONS NECESSARY FOR A NUMBER OF ENGINEERING OPERATIONS DIFFICULT TO ATTAIN BY OTHER METHODS. UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203510014-3"

USSR

UDC 616.981.42-092.9-07:616.15-097.5

VERSHILOVA, P. A., CHERNYSHEVA, M. I., KNYAZEVA, E. N., and DRANOVSKAYA, Ye. A., Institute of Epidemiology and Microbiology imeni Garaleya, Academy of Medical Sciences USSR, Moscow

"A Study of the Preventive and Opsonic Activity of IgM- and IgG-Antibodies in Experimental Brucellosis Infection"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973, pp 37-40

Abstract: The preventive activity of IgM- and IgG-antibodies obtained from guinea pigs 15 days to 18 months after infection by Br. melitensis was assessed by injecting whole serum and separate immunoglobulin fractions into white mice and subsequently infecting them with Br. melitensis. Opsonic activity was determined by the degree to which serum and immunoglobulin fractions activated neutrophils. Preventive activity of the immunoglobulin fractions followed the pattern of the quantity of antibodies, chiefly hemagglutinins, contained within from the 15th day, peaked at 1-2 months and then dropped for the remaining period of observation, while those of the IgG fraction arose 20 days later 1/2

USSR

VERSHILOVA, P. A., et al., Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973, pp 37-40

Neutrophil activity of serum rose from 8-16% in the first 15 days to 26-40% after 2-6 months, and then dropped for the remaining period. While the IgM fraction displayed no opsonic activity, the activity of the IgG fraction followed the pattern of activity displayed by serum. Thus it is shown that IgG-antibodies dominate in protecting guinea pigs from brucellosis infection.

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USSR

UDC 616,981.42

VERSHILOVA, P. A., and GOLUBEVA, A. A.,

Brutsellez v SSSR i Puti Yego Profilaktiki (Brucellosis in the USSR and Ways to Prevent It), Moscow, "Meditsina", Moscow, 1970, 192 pp

Translation: Foreword: This book is devoted to the study of brucellosis in the USSR and the fight against it. Literature data and epidemiological surveys of brucellosis are presented in the book. The authors' main task is to present the epidemiological features of brucellosis in the USSR, current achievements in the fight against it, and the direct of measures for further curtailing this infection in the nation. Veterinary scientists and specialists have made a great contribution to the problem of studying and working out methods and ways to eradicate brucellosis among livestock. This has been reflected in numerous corresponding publications, and therefore in the present book the task of providing complete information on this subject has not been set. Brucellosis has been studied as an independent disease since 1800. However, the history of the study of brucellosis in the Soviet Union began in the first decade after the Great October Socialist Revolution. Systematic and in-depth study of this infection was started for human beings (P. F. Zdrodovskiy) and livestock (S. N. Vyshelesskiy) as early as the 1920's. The following stage is characterized by

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USSR

VERSHILOVA, P. A., et al, "Meditsina", Moscow, 1970, 192 pp

determination of the distribution of brucellosis among animals and human beings for the nation and individual republics. Organization of the network of antibrucellosis stations was of decisive importance in the fulfillment of this task. The attack on prucellosis that was started during these years at foci of infection and the opening up of scientific research work in specialized laboratories created the prerequisites for implementing measures for eliminating brucellosis foci. During the difficult years of the Great Patriotic War and the first postwar period, the situation with respect to brucellosis worsened considerably in this country. Brucellosis acquired great importance in livestock-breeding regions. Great efforts were required on the part of scientists and practicing veterinarians in order to seek out the most effective measures for controlling this serious disease and to prevent it from becoming widespread. Based on the achievements of science and practice, fulfillment of the task of eliminating brucellosis among livestock, primarily among cattle as the source of brucellosis most dangerous to man, became practicable. With the support of Soviet and party organs, persistent implementation of antibrucellosis measures worked out by science and practice led to considerable reduction of foci of infection and cases of brucellosis in humans, which is reflected in the materials presented. Data of investigations by domestic scientists on immunity, vaccinal 2/3

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VERSHILOVA, P. A., et al, "Meditsina", Moscow, 1970, 192 pp

immunogenesis, and vaccinal strains proposed for inoculation against brucellosis are presented as a separate section in the book. Problems of brucellosis prevention are illuminated on the basis of the considerable scientific work and practical experience of many scientists and specialists of the nation's practicing veterinary and medical service, and instructional materials that have the force of law. Creation in 1939 of a special inspectorship for brucellosis in the USSR Ministry of Health and the ministries of some Union republics had great positive significance in organizing the study and implementation of antiepidemic measures for brucellosis. The authors of the book considered it their duty to summarize years of materials on the divisions of the problem of brucellosis listed, and also to reflect the results of the work of the enormous collective of Soviet medical and veterinary service. In connection with this, we believe that the present book cannot exhaust all aspects of studying and ways of combatting brucellosis, but we hope that it will be useful to those who continue their activity in this field.

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USSR

UDC 616.981.42-07:616.153.962.4-097-01

ENGRISCON PROBLEM DE LA PROBLE

VERSHILOVA, P. A., CHERNYSHEVA, M. I., and KNYAZEVA, E. N., Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR

"Characteristics of Immune Globulins in Brucellosis and After Vaccination"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, 1970, pp 100-105

Abstract: Studies on the dynamics of microglobulin and macroglobulin production in guinea pigs vaccinated and infected with Brucella were conducted. Antibodies were determined by the agglutination and indirect hemagglutination reactions at various intervals until 12 months after the start of the experiment. Sera were treated with cysteine to detect the antibodies. Macroglobulins (19S, IgM, \langle M) appeared after about two weeks in both vaccinated and infected animals. Microglobulins (7S, I $_{\gamma}$ G, $_{\gamma}$ G) appeared in the third week, against a background of maximum antibody production. Antibody titers did not exceed 1:160 in vaccinated animals, but reached 1:1280-1:2560 in infected animals. The infectious process was characterized by high microglobulin titers throughout the observation period (12 months). The indirect hemagglutination reaction was more sensitive than the agglutination reaction in detecting microglobulins in cysteine-treated sera.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203510014-3"

1/2 016
TITLE—CELLULAR AND HUMORAL INDICES OF VACCINAL IMMUNOGENESIS IN
BRUCELLOSIS -UAUTHOR-(02)-VERSHILOVA, P.A., CHERNYSHEVA, M.I.

COUNTRY OF INFO--USSR

SOURCE—ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 5, PP 77-80
DATE PUBLISHED————70

SUBJECT AREAS—BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS—IMMUNITY, BRUCELLOSIS

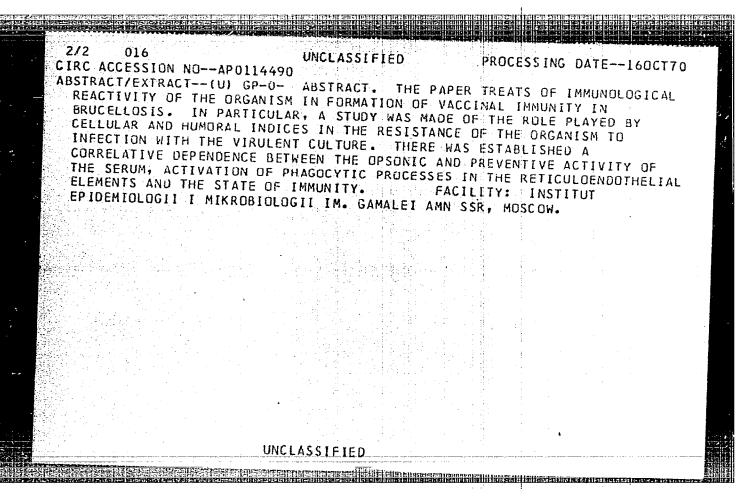
CONTROL MARKING--NO RESTRICTIONS

PROXY REEL/FRANE--1994/0094

STEP NO--UR/0016/T0/000/005/0077/0080

CIRC ACCESSION NO--APO114490

UNCLASSIFIED



USSR

UDC 576.851.42.07

VERSHILOVA, P. A., DRANOVSKAYA, Ye. A., and KUSHVAREV, V. M., Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR, and Moscow Institute of Vaccines and Sera imeni Mechnikov

"A Supplementary Method of Identifying Bacteria Belonging to the Genus Brucella"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 12, 1972, pp 98-101

Abstract: The spectrophotometric method is recommended for identification of both typical and atypical brucella strains. Like the classic brucellosis pathogens (melitensis, abortus, and suis), the atypical strains (Br. suis biotype 4, No 481, 03, 0, 11) collected from northern deer; Br. neotomae strains No 63/1, 66/2, and 65/197; Br. ovis No 64 isolated in the USSR and No 63/90 obtained from England; Br. canis No 666 obtained from the U.S.; and three strains isolated from mouselike rodents in the USSR and presumed to be Br. murium No 1, 6, and 68) have distinct absorption peaks in the alpha and beta bands of cytochrome c. Characteristically, Br. canis isolated from deer and strains isolated from mouse-like rodents display shifts to the right in the alpha (554-560 mmic) and beta (524-530) absorption peaks of cytochrome c, while strains isolated from deer, Br. neotomae, and Br. ovis also have distinct cytochrome a absorption bands (620-630).

USSR

VERSHILOVA, P. A., et al., Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 12, 1972, pp 98-101

Other gram-negative bacteria (Salmonella, Escherichia, and Fr. tularensis) have different spectrophotograms in which cytochrome b absorption peaks predominate. It is recommended that the method be used for differential diagnosis of bacterial samples and that the presence of cytochrome c be specified in the taxonomic description of the genus Brucella.

2/2

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87562 5/019/60/000/014/130/196/XX A152/A026

9.4310 (3203, 1143, 1160)

AUTHORS:

Vershin, V.Ye., and Zhivulin, Ye.K.

TITLE :

A Method for Measuring High-Frequency Transistor Parameters

PERIODICAL: Byulleten' izobreteniy, 1960, No. 14, p. 28

TEXT: Class 21g, 11 02. No. 130119 (626355/26 of 24 Apr 59). 1. This is a method distinguished by its simplicity and automation of measurements. The transistor triode being measured is fed with a reference square pulse and the latter is compared with a pulse taken up from the tested transistor's collector load. The unknown parameter is then determined from the data obtained. 2. The accuracy of measurements is increased and the above process is automated by using a stabilivolt in the capacity of the pulse detector. This stabilivolt is coupled with a measuring instrument with an indicator. The type of conductivity of the transistors is determined, the latter are checked for absence of short-circuit and assorted according to power by means of a relay unit that switches the voltages being connected up to the transistor and those being taken up from its output.

Card 1/1

84171

9,3220

S/019/60/000/013/026/112 A152/A029

AUTHOR:

Vershin, V.Ye.

TITLE:

A Pulse-Forming Device

PERIODICAL: Byulleten' izobreteniy, 1960, No. 13, p. 26

TEXT:

Class 21a¹, 36. No. 129673 (640259/26 of October 1, 1959). This device for the above-specified purpose forms pulses of various duration and incorporates a non-linear switching and a reactive storage element. It has the following special feature: the non-linear element in the form of a semiconductor stabilizer is series-connected with the load and parallel-connected up into the reactive storage element.

Card 1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203510014-3"

Aeronautical

USSR

UDC:629.78.018.1

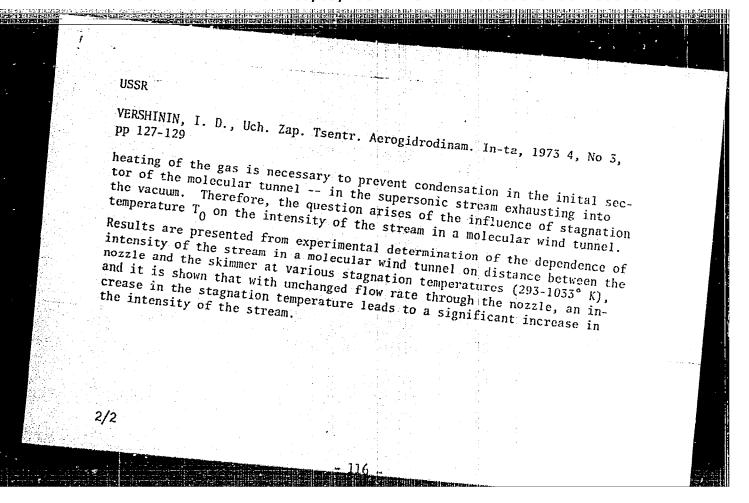
VERSHININ, I. D.

"Experimental Determination of Dependence of Flow Intensity in a Molecular Wind Tunnel on Stagnation Temperature"

Uch. Zap. Tsentr. Aerogidrodinam. In-ta [Scientific Writings of Central Institute of Aerodynamics and Hydrodynamics], 1973, 4, No 3, pp 127-129 (Translated from Referativnyy Zhurnal Raketostroyeniye, No 11, 1973, Abstract No 11.41.105, from the resume)

Translation: The primary parameters of the stream in a molecular wind tunnel are the intensity (that is the number of molecules intersecting a unit surface area perpendicular to the stream per unit time) and the mean velocity. Extensive experimental material has been accumulated on the infinite various factors on these parameters. However, most works which have produced this material have been performed without heating of the gas in a prechamber, that is at room stagnation temperature. However, it is obvious that by increasing the stagnation temperature, one can increase the mean flow velocity in a molecular wind tunnel. Furthermore, preliminary

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203510014-3"

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WC 547.26'118.07

VERSHININ, P. V., ALPATOVA, R. I., SAMOYLOVA, A. N.

"A Method of Purifying Commercial Butyphos"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 15, Apr 73, Author's Certificate No 374323, Div C, filed 12 Jan 71, published 20 Mar 73, p 52

Translation: This Author's Certificate introduces: 1. A method of purifying commerical Butyphos with the distinguishing feature that the quality of the finished product is improved by treating commerical Butyphos with superheated steam. 2. A modification of this method distinguished by the fact that the process is carried out at atmospheric pressure and at 100-110° C. 3. A modification of the method covered in point 1, distinguished by the fact that the process is carried out at a pressure of 50-100 mm Hg at 60-100°C.

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USSR

UDC: 669.187.2

KRASNORYADTSEV, N. N., LEVIN, A. M., GLAZOV, A. N., PASHCHENKO, V. Ye., KONOVALOV, K. N., VERSHININ, V. I.

"Decreasing the Loss of Titanium During Production of Stainless Steel"

Moscow, Metallurg, No 10, Oct 73, pp 18-19.

Abstract: Balance melts performed in a 40 ton arc furnace at the Kuznetsk Metallurgical Combine have shown that when type Kh18N10T stainless steel is produced by the ordinary technology (using up to 70% of waste of this type of steel in the charge, blowing of oxygen through the bath, running off of slag at the end of the melt and introduction of new lime and spar, alloying with 30% ferrotitanium in the furnace), the titanium losses are approximately as follows: 56% by interaction with oxides, 13% with oxygen and nitrogen in the metal, 27% with oxygen in the air, other losses 4.0%. Replacement of 30% ferrotitanium with 65% and alloying the metal in the ladle rather than in the furnace reduced the mean titanium loss from 57.0 to 52.0%. Several series of experimental melts were performed to find additional means of reducing and stabilizing titanium loss, without success. Success was finally achieved by modifying the technology quite basically. The primary features of the new technology are that the slag is not run

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USSR

Krasnoryadtsev, N. N., Levin, A. M., Glazov, A. N., Pashchenko, V. Ye., Konovalov, K. N., Vershinin, V. I., Moscow, Metallurgy, No 10, Oct 73, pp. 18-19.

off from the furnace after melting of the ferrochromium, but rather poured into the ladle with the metal at a high temperature (averaging about 1640° C), tion of chromium from the slag. The metal is poured from the first ladle with 65% ferrotitanium in the second ladle, preventing contact between the new technology, and the stability of the titanium content was increased.

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USSR

UDC 669.187.2

VERSHININ, V. I., LEVIN, A. M., GLAZOV, A. N., KRASNORYADTSEV, N. N., and FASHCHENKO, V. Ye., Kuznetsk Metallurgical Combine and Siberian Metallurgical Institute

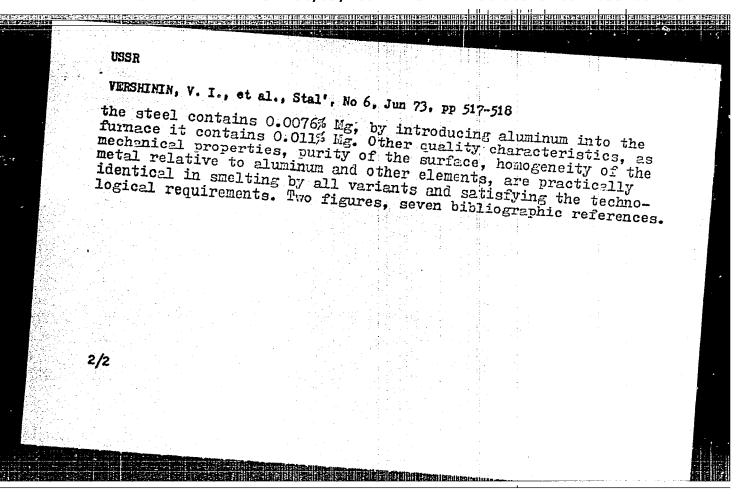
"Alloying Steel With Aluminum in Pouring From Ladle Into Ladle" Moscow, Stal', No 6, Jun 73, pp 517-518

Abstract: Three smelting variants of manganese-aluminum steel were investigated in order to determine the most optimum variant. The investigation results are discussed by reference to curves of the magnesium content (in %) dependence on periods of smelting of the magnesium content (in %) dependence on periods of smelling and pouring. Smelting manganese-aluminum steel without drawing off the slag, with double pouring over and alloying with aluminum in the second ladle, makes it possible to get in the ready-made metal in the average 0.0024% Mg; this decreases the melting duration by 15-20 min and reduces the waste due to stratification.

By the standard tacknology with aluminum allowing in the ladle By the standard technology with aluminum alloying in the ladle,

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203510014-3"



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UNCLASSIFIED

TITLE -- SOLUBILITY OF ALPHA NAPHTHOL, SEVIN, AND CO RAL IN VARIOUS SOLVENTS

AUTHOR-(02)-VERSHINIA, N.D., LITOVCHENKO, G.D.

COUNTRY OF INFO-USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(1) 255-6

DATE PUBLISHED----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS-SOLUBILITY, DRGANIC SOLVENT, HETEROCYCLIC OXYGEN COMPOUND, NAPHTHOL, CHLORINATED ORGANIC COMPOUND

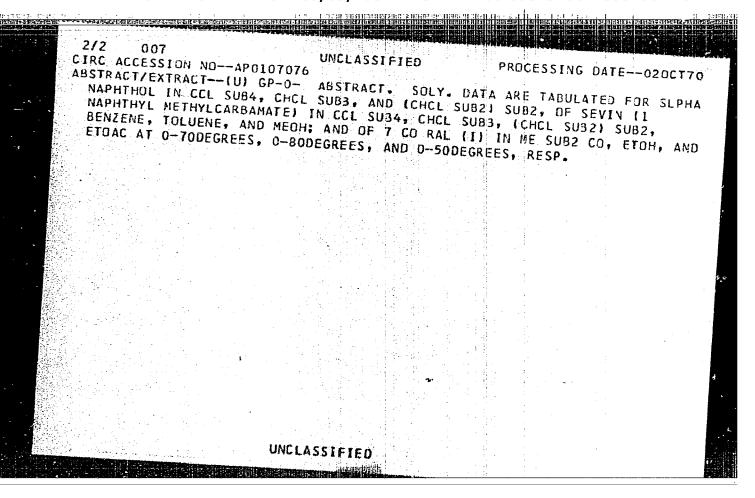
CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1989/0470

STEP NO--UR/0076/70/044/001/0255/0256

CIRC ACCESSION NO--APO107076

UNCLASSIFIED



APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203510014-3"

.USSR

VERSHININ, B. A.

UDC: 531.55:521.1

"Concerning Nutational Oscillations of a Variable-Length Gyropendulum

Sb. nauch. tr. Krasnoyarsk. politekhn. in-ta (Collected Scientific Works of Krasnoyarsk Polytechnical Institute), 1971, No. 10, pp 156-165 (from RZh-Mekhanika, No 7, Jul 72, Abstract No 7A94)

Translation: The paper discusses a variable-length gyropendulum whose point of support moves with variable acceleration along a stationary axis parallel to a constant homogeneous gravitational field. The gyropendulum consists of a symmetric carrier gyroscope and a system of carried movable material points. The relative displacements of the carried material points are such that the principal axes of inertia of the carrier gyroscope remain the principal axes of inertia for the system of carried material points, whose ellipsoid of inertia is an ellipsoid of revolution. The axis of proper rotation of the gyroscope is the central axis of the carrier and the carried points. An investigation is made of the special case where the projection of the kinetic moment of the carried material 1/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203510014-3"

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VERSHININ, B. A., Sb. nauch. tr. Krasnoyarsk. politekhn. in-ta, 1971, No 10, pp 156-165

points on the axis of proper rotation of the carrier gyroscope is a function of time, while the projections of the kinetic moments of the carried points along the two remaining rectangular axes are equal to zero. A study is made of the limitations on the engles of nutation in spatial oscillation of the axis of the gyropendulum in the case of absence of initial angular velocity of precession of this axis. Bibliography of nine titles. Author's abstract.

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JUSSR.

UDC: 629.78.017.2

VERSHININ, B.A.

"On Comparison of two Control Laws in Problem of Fast Response"

Sb. nauch. tr. Krasnoyarsk. politekhn. in-t (Symposium of Scientific Works of Krasnoyarsk Polytechnic Institute) 1971, No 10, pp 166-172 (from Referativnyy Zhurnal-Raketostroyeniye, No 7, 1972, Abstract No 7, 41, 162)

Translation: Control law is considered, which can be used in highorder nonlinear systems of automatic control, represented by a system on ordinary differential equations; one of these equations has the form of Kinematic coupling:

 $\omega = d\psi/dl = F(\psi)$.

The proposed control law

 $\omega = F(\psi) = \sqrt{\psi(a - \psi) \Sigma a_i \psi}; (ie[o, n))$

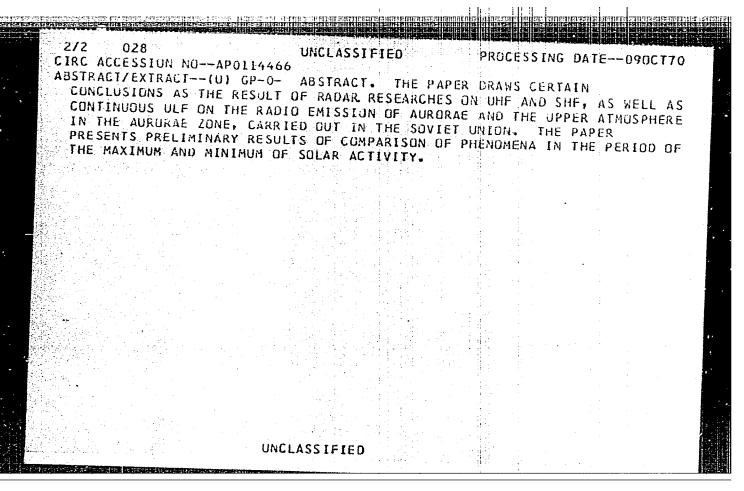
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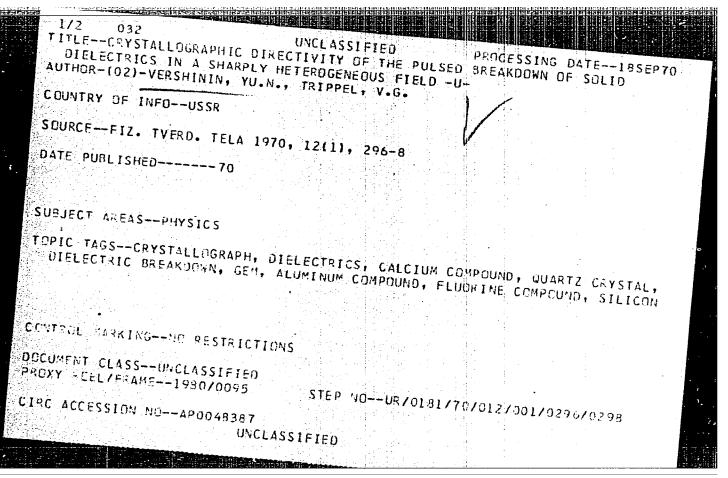
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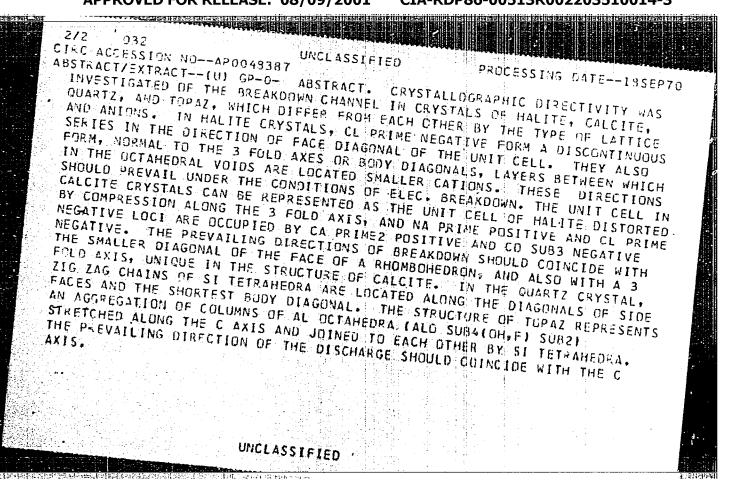
VERSHININ, B. A., Sb. nauch. tr. Krasnoyersk. politekhn. in-t, 1971, No 10, pp 166-172

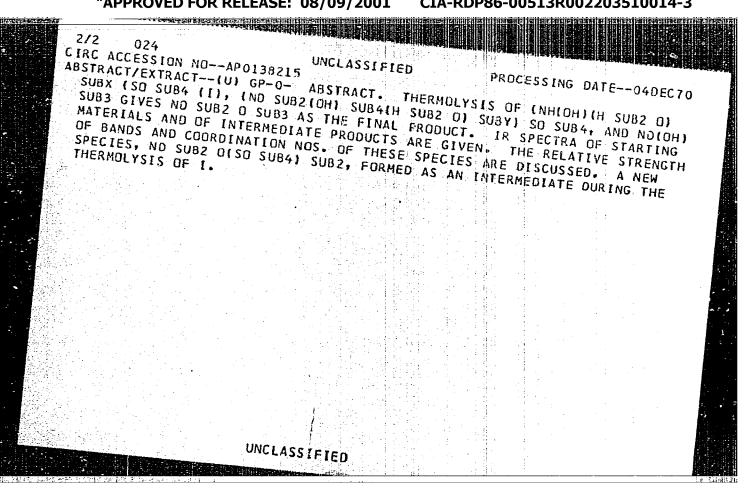
brings the control system to $\mathcal E$ neighborhood of the new position in the range of aperiodic transient motion with unequality type limitations of function ω and the modulus of its derivative with respect to time. The reduction of the system is conducted along a single coordinate \(\mathcal{V} \) in the class of continuous and sufficiently smooth control functions. The main purpose of the proposed control law is the solution of a certain combination of motion control problems, which cannot be solved by the principle of maximum because of the complexity of the system. It is of interest, however, to compare numerically the solutions of a certain problem by the principle of maximum and by the proposed method. Such a comparison is presented in the article for a specific mechanical system, as an example. It turns out that the increase in the duration of system's transient motion due to the use of more narrow class of control, as compared to the control corresponding to the principle of maximum, is practically small. This forms the ground for the significance of the application of the proposed control law (1 illustration, 14 references, resume).

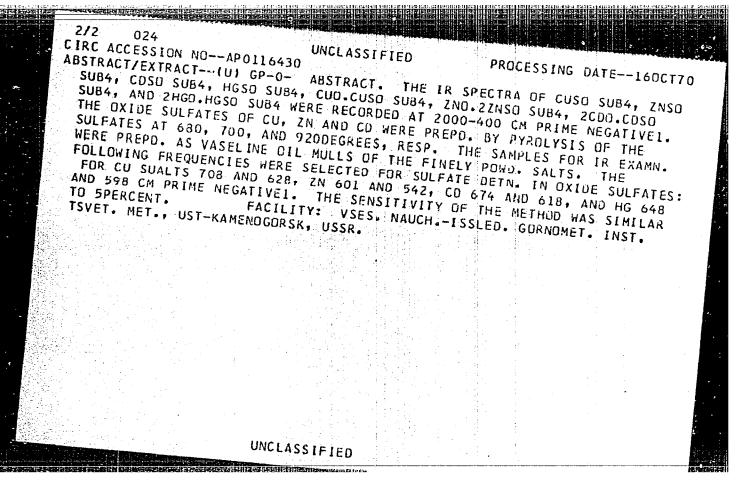
1/2 028 TITLE-RADIOPHYSICAL RESEARCHES IN THE AURORAE ZONE -U-PROCESSING DATE--090CT70 AUTHOR-(05)-PONOMAREV. YE.A., SVERDLOV, YU.L., PYATSI, A.KH., VERSHININ, COUNTRY UF INFO-USSR SOURCE—RAZDEL IV, PULYARNYYE SIYANIYA, 1970, NR 19, PP 5-11 DATE PUBLISHED----70 SUBJECT AREAS—ASTRONOMY, ASTROPHYSICS, ATMOSPHERIC SCIENCES TOPIC TAGS--AURORA, RADIO EMISSION, UPPER ATMOSPHERE, SOLAR ACTIVITY CONTROL MARKING-NO RESTRICTIONS DUCUMENT CLASS-UNCLASSIFIED PRUXY REEL/FRAME--1994/0070 STEP NO--UR/3307/70/000/019/0005/0011 CIRC ACCESSION NU-APOL14466 UNCLASSIFIED

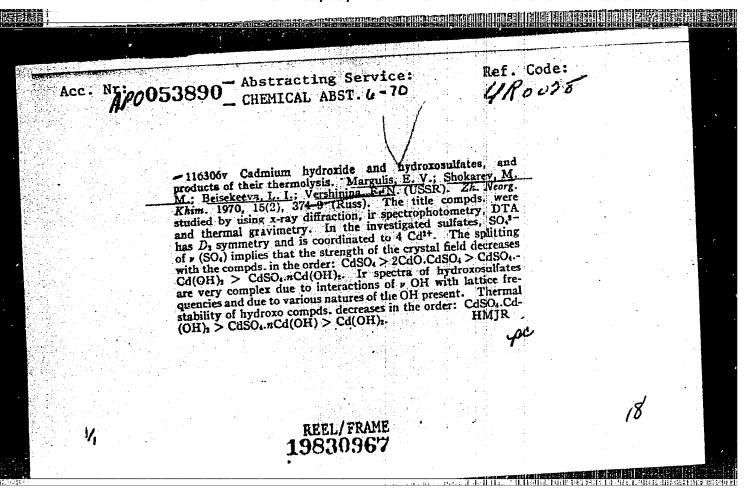












UDC 535.317.2

USSR

VERSHININA, L. N., and SHEVCHENKO, V. V., Institute of Radio Engineering and Electronics, Academy of Sciences of the USSR, Moscow

"Quasioptical Channels for the Submillimeter Wave Band"

Moscow, Pribory i Tekhnika Eksperimenta, No 4, Jul/Aug 71, pp 147-149

Abstract: This paper describes quasioptical submillimeter transmission channels of two types: a confocal lens-type light-guide line based on non-reflecting lenses, and a diaphragmatic light guide made up of iris diaphragms. The lines are constructed in such a way that they can transmit only the fundamental wave mode. The results of experimental measurements of the parameters of the transmission lines are presented. Spectrometers for the submillimeter band were constructed on the basis of the lens-type transmission line. These spectrometers were used for studying the absorption spectra of various solid and liquid dielectrics. The proposed quasioptical lines can be used in various other types of physical research. The authors thank V. V. Meriakri for assistance with development of these transmission lines.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203510014-3"

USSR

UDC: 621.317.77(088.8)

VERSHININA. L. N., Institute of Radio Engineering and Electronics, Academy of Sciences of the USSR

"A Device for Measuring Phase in the Millimeter Wave Band"

USSR Author's Certificate No 267751, filed 21 Aug 67, published 23 Jul 70 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A319 P)

Translation: This Author's Certificate introduces a device for measuring phase in the millimeter wave band. The device contains two reception channels and a double T-bridge with a detector head and matched load in the side legs. As a distinguishing feature of the patent, measurement precision is improved by making one of the reception channels in the form of a 90° waveguide twist with controllable attenuator and connecting this channel to the E-branch of a tee, while the other channel is made in the form of a 90° waveguide E-bend which also has a controllable attenuator and is connected to the H-branch of the tee. E. L.

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UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--KINETICS OF SOME ELECTRODE PROCESSES ON A CONTINUOUSLY RENEWED
SURFACE OF SOLID METAL -UAUTHOR-(02)-TOMASHOV, N.D., VERSHININA, L.P.

COUNTRY OF INFO--USSR

SOURCE--ELECTROCHIM. ACTA 1970, 15(4), 501-17

DATE PUBLISHED----70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--METAL ELECTRODE, METAL DIFFUSION, ELECTROCHEMISTRY

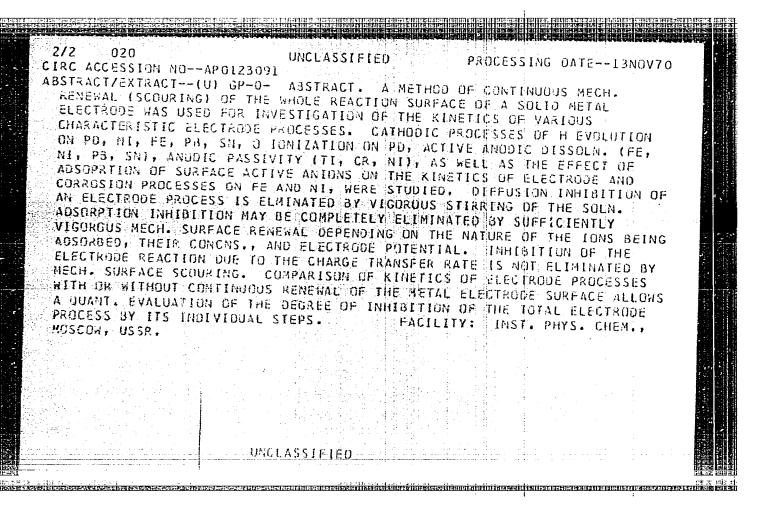
CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1999/1099

STEP NO--UK/0000/70/015/004/0501/0517

CIRC ACCESSION NO--APO123091

TARRIBER



USSR

SUDAKOV, N. I., VERSHININA, N. I., DROKIN, A. I., and URSULYAK, N. D., Krasnoyarsk Institute of Nonferrous Metals imeni M. I. Kalinin, Krasnoyarsk State University

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 34, No 5, May 70, pp 1077-1081

Abstract: The variation of the crystallographic magnetic anisotropy constant K₁ of single crystal samples of ferrite garnets with the field and temperature was measured by the mechanical moment method. Some of the samples had an addition of gallium and aluminum ions; a list of the composition of the samples follows:

No of sample	Composition			
1 2 3 4 5 6 7	Bi _{2.12} Ca _{2.24} Fe _{3.24} V _{1.23} O ₁₂ Bi _{3.25} Ca _{2.24} Fe _{3.24} V _{1.24} O ₁₂ Bi _{3.25} Ca _{2.24} Fe _{3.24} V _{1.24} O ₁₂ Bi _{3.24} Ca _{2.24} Fe _{3.24} V _{1.24} O ₁₂ Bi _{3.24} Ca _{2.24} Fe _{3.24} V _{1.22} Al _{3.25} O ₁₂ Bi _{3.25} Ca _{2.24} Fe _{3.24} V _{1.22} Al _{3.25} O ₁₂ Bi _{3.25} Ca _{2.24} Fe _{3.24} V _{1.22} Al _{3.25} O ₁₂ Bi _{3.24} Ca _{2.24} Fe _{3.24} V _{1.22} Al _{3.25} O ₁₂ Bi _{3.24} Ca _{2.24} Fe _{3.24} V _{1.22} O _{30.25} O ₁₂ Bi _{3.24} Ca _{2.24} Fe _{3.24} V _{1.22} O _{30.25} O ₁₂ Bi _{3.24} Ca _{2.24} Fe _{3.24} V _{1.22} O _{30.25} O ₁₂ Bi _{3.24} Ca _{2.24} Fe _{3.25} V _{1.22} O _{30.25} O ₁₂			

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"Magnetic Anisotropy of Bismuth-Calcium-Iron-Vanadium Garnets"

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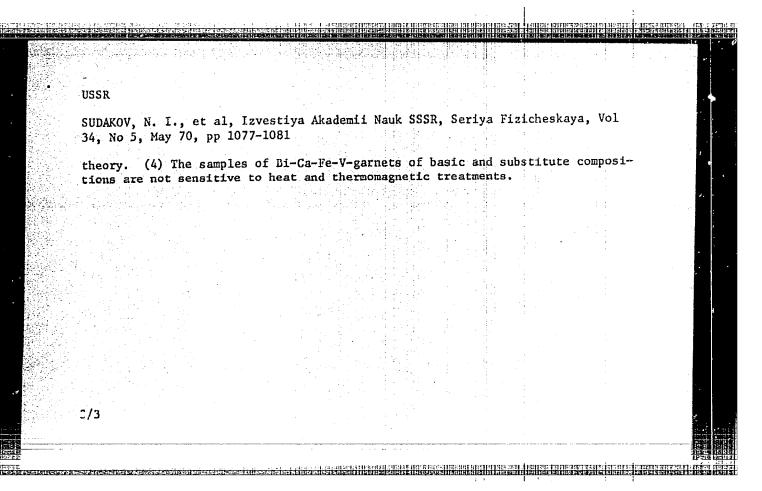
CIA-RDP86-00513R002203510014-3 "APPROVED FOR RELEASE: 08/09/2001

USSR

SUDAKOV, N. I., et al, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 34, No 5, May 70, pp 1077-1081

Analysis of the curves of the mechanical moments in the (100) plane in samples of all composition showed that the curves of the moments have a clearly expressed periodicity of 77/2 at room temperatures even for weak fields of 40 oersted. A change in the temperature leads to a change in the amplitude of the sine curve and a shift in the saturation fields. The addition of the diamagnetic lons $A1^{3+}$ and Ga^{3+} produces an expressed dependence of K_1 on their content for a fixed quantity of vanadium ions: K1 decreases with an increase in the aluminum and gallium content for all temperatures. The effect of the type of substitute ion on the anisotropy was difficult to estimate from the results of this study, since the experiments were conducted with different vanadium contents: x = 1.22for the Al-substitute and x = 1.29 for the Ga-substitute. The following four conclusions were made: (1) K₁ for bismuth-calcium-iron-vanadium garnets is only slightly dependent on the composition. The introduction of additional diamagnetic $A1^{3+}$ and Ga^{3+} ions considerably reduces its value. (2) The dependence $K_1(T)$ for all samples is qualitatively the same. K_1 is negative in the entire temperature interval studied and its value rises sharply with a drop in temperature. (3) The dependence of K1 on the field for all samples is in agreement with 2/3

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203510014-3"



1/2 012 UNCLASSIFIED PROCESSING DATE-- 13NOV70 TITLE--VULCANIZATION OF UNSATURATED RUBBERS -U-AUTHOR-(04)-DOGADKIN, B.A., DENTSOV, A.A., LOBACHEVA, G.K., VERSHININA, COUNTRY OF INFO--USSR SCURCE--U.S.S.R. 267,062 REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, DATE PUBLISHED -- 01APR 70 SUBJECT AREAS--MATERIALS TOPIC TAGS--VULCANIZATION, RUBBER, PYRIDINE, IDDINATED ORGANIC COMPOUND, CONTROL MARKING--NO RESTRICTIONS DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3002/1411 STEP NO--UK/0482/70/000/000/0000/0000 CIRC ACCESSION NO--AA0128810 UNCLASSIFIED

2/2 012 CIRC ACCESSION NOAA0128810 ABSTRACT/EXTRACT(U) GP-0- ALLYEPYRIDINIUM IODIDE, WA PRESENCE OF RADICAL INITIA	ABSTRACT.	A VULCANIZ	ING AGENT,	CDC THE THE	70
INSTITUTE OF FINE CHEMICAL	TECHNOLOGY,	MOSCOW.	- LUMUMUS	UV, M. V.,	
		Sant Day Control of			
(1982) - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 1					
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length during extrusion. Guber, F. B.; Bartenev G. M.; Hozenoer, I. N.; Vershippa Os. Vu. (Nauch. Issled. Inst. Rezin. Prom., Ilow of SKS-30 ARKM-15 and SKN-26M (I) rubber mixts. (contg. variable amts. of plasticizer and filler) through dies having a length-to-diam, ratio of 0.5-5.0 was studied. The flow of the accumulation of highly elastic deformation) was accompanied by elastic turbulence. The elastic turbulence was characterized by slippage of rubber mixts, through the extruder. The surface of the extrudate deteriorated and its diam, increased due to elastic turbulence. Increased content of carbon black (II) bmught if filled with 40-60 parts II per 100 parts I exhibited markedly improved properties. Thus, the properties of the extrudates were mainly detd. by their elastic properties. The shrinkage of extruder mixts, was inversely proportional to the length of the extruder.

REEL/FRAME

19780046

THE REPORT OF THE PROPERTY OF

Acc. Nr April 20045146 Abstracting Service: Ref. Code CHEMICAL ABST. Programmer CHEMICAL ABST

Single Crystals

USSR

UDC 669.791:539.382

PUSTOVALOV, V. V., VERSHININA, V. V., TSIVINSKIY, S. V., and ALEKSANDROV, B. N., Physics Technical Institute of Law Temperatures, Academy of Sciences UkrSSR

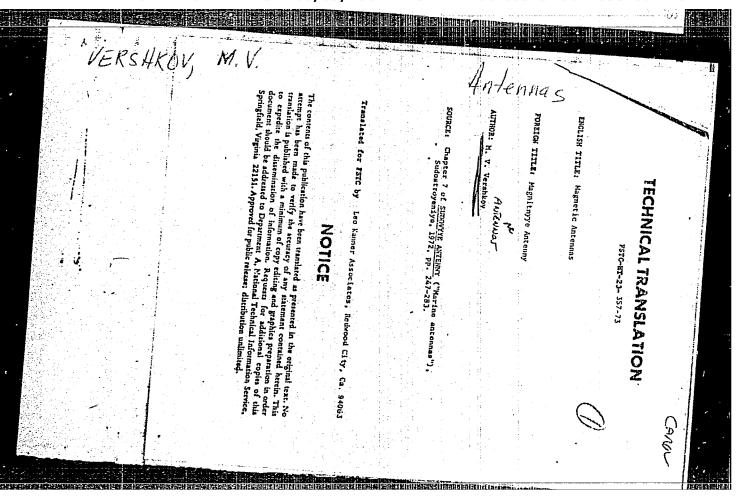
"Plastic Deformation of Mercury Single Crystals"

Moscow, Fizika Metallov i Metallovedeniye, Vol 30, No 5, 1970, pp 991-998

Abstract: Plastic deformation of mercury single crystals was studied by recording the extension curve at 77.3, 4.2, and 1.4-1.6 K. It was demonstrated that crystals of mercury have high plasticity down to very low temperatures (1.5-4.2 K). At 4.2 and 1.5 K, a multistage hardening curve was observed, which does not differ in principle from crystals with a different crystalline structure.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203510014-3



USSR

UDC: 621.396,674,3

VERSHKOV, M. V.

"A Log-Periodic Antenna"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyve Obraztsy, Tovarnyve Znaki, No 12, Apr 72, Author's Certificate No 273848, Division H, filed 15 Apr 68, published 30 Mar 72, p 242

Translation: This Author's Certificate introduces a log-periodic antenna made up of two structures whose longer-wave dipoles are bent at an angle of 90 degrees and have an inductive load at the corner break. The antenna also includes a feed line. As a distinguishing feature of the patent, the length of the antenna is reduced by making the dipole feed line shorter than $\lambda_{\min}/4$ and bending it back inside the antenna so that the structures take the form of a W.

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- 22 -

USSR

VERSEKOV K. V., YELISEYEV, A. A., KURILOV, I. N.

"A Log-Periodic Dipole Antenna"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 12, Apr 72, Author's Certificate No 294543, Division H, Tiled 18 Oct 68,
No 12, Apr 72, Author's Certificate introduces a log-periodic dipole

Translation: This Author's Certificate introduces a log-periodic dipole
antenna made up of two half-structures. As a distinguishing feature of
antenna made up of two half-structures. As a distinguishing feature of
the patent, the design is simplified by connecting a short-circuited line
the patent, the design is simplified by connecting a short-circuited line
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UDC: 621,396,673

VERSHKOV, M. V., YEVGRAFOV, V. D., ONISHCHENKO, T. A.

"A Short-Wave Antenna"

Moscow, Otkrytiva, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 12, Apr 72, Author's Certificate No 285837, Division H, filed 11 Jul 69, published 30 Mar 72, pp 241-242

Translation: This Author's Certificate introduces a short-wave antenna made in the form of a vertical dipole with capacitive loading. As a distinguishing feature of the patent, the working range is extended and losses are reduced by placing vertical rods of different heights around the circumference of the radiator.

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